ABSTRACT

A pulse modulator has a subtraction stage that produces a control error signal from the difference between a complex input signal and a feedback signal. A signal conversion stage converts the control error signal to a control signal. The control signal is multiplied by a complex mixing signal at the frequency ω_0 in a first multiplication stage. At least one of the real and imaginary parts of the up-mixed control signal is then quantized by a quantization stage to produce a real pulsed signal. The pulsed signal is then employed to produce the feedback signal for the subtraction stage in a feedback unit. The pulse modulator according to the invention allows the range of reduced quantization noise to be shifted toward a desired operating frequency ω_0.